AMENDMENTS TO THE SPECIFICATION:

Please replace the heading and paragraph at page 1, lines 3-17, with the following:

Computer Program Listing Appendix ~~A~~ on CD-ROM

The file of this patent includes duplicate copies of a compact disc (CD-ROM) with a read-only memory file ~~Simultaneous with the submission of this Application, a transmittal letter and a single CD-ROM containing a Computer Program Listing Appendix A is being submitted. This CD-ROM is in IBM PC-compatible format and contains a single file~~ entitled ~~TAC9764.doc~~ASCIIFM which is in ~~WORD 97~~ASCII file format. The file was created on ~~February 19~~May 16, 2002 and is a size of ~~54,000~~18,000 bytes. This ~~WORD~~ ASCII document contains the lines of code which represent an example of one possible embodiment of a Computer Program Listing for this invention. ~~The~~ This CD-ROM and the ~~TAC9764.doc~~ASCIIFM file which is contained thereon is incorporated-by-reference to this Patent Application. This Application includes references to this Computer Program Listing Appendix on CD-ROM, the lines of code and the code line numbers contained therein.

Please replace the paragraph beginning at page 1, line 25 and continuing to page 2, line 11, with the following:

In order for an operator of an embroidery machine to know how well a design will sew, the operator must select various parameters which need to be compatible with each other and with the design. In order to confirm compatibility, the operator actually sews the design as a test. This process of selecting parameters and making a test design can be extremely time consuming, given that the average machine will sew at a rate of 400 stitches per minute, and designs typically contain 10,000 - 80,000 stitches. There is a need for a system and method which can assist the operator in

selecting parameters and providing the operator guidance on the interrelationship between the selected parameters and other parameters that can affect the quality of the resulting embroidered design and on the effectiveness of ~~producing~~ manufacturing the embroidered design. There is also a need for a system and method which minimizes or avoids the need for sewing all or part of the design as a test to determine the quality of the resulting embroidered design and the effectiveness of the embroidery process.

Please replace the paragraph at page 2, lines 13-26, with the following:

In one form, the invention comprises a~~n~~ ~~expert~~ computer-implemented system for assisting an operator in analyzing embroidery ~~parameters~~ design which will be used by an embroidery machine to ~~create~~ manufacture an embroidered fabric. A knowledge base contains a plurality of parameters which relate to embroidery designs and the process of ~~making~~ manufacturing an embroidered fabric from an ~~embroidered~~ embroidery design. A rules base of rules interrelates two or more of the parameters. Selection software is responsive to the operator for permitting the operator to select a parameter and for ~~designates a defined~~ defining an additional parameter from the plurality of parameters. The defined parameter is a function of the operator selected parameter. Analysis software applies the rules to the defined parameter and generates one or more recommended manufacturing parameters from the plurality of parameters. The recommended manufacturing parameter is~~as~~ a function of the defined parameter. Display software provides a display corresponding to the selected and defined parameters and corresponding to~~the~~ one or more recommended manufacturing parameters such that the one or more recommended manufacturing parameters define parameters for

manufacturing the embroidery design using the embroidery machine.

Please replace the paragraph at page 2, line 27 to page 3, line 4, with the following:

In another form, the invention comprises a method for assisting an operator of an embroidery machine in analyzing an embroidery design using a knowledge base of parameters relating to embroidery designs and a rules base of rules interrelating the parameters. The method comprises the steps of designating ~~a~~selected and defined parameters relating to the embroidery design where the defined parameter is a function of the selected parameter; applying the rules to the defined parameter; generating one or more recommended manufacturing parameters as a function of the application of the rules to the selected and defined parameters; and displaying the selected and defined parameters and the one or more recommended manufacturing parameters such that the one or more recommended manufacturing parameters define parameters for manufacturing the embroidery design using the embroidery machine.

Please replace the paragraph at page 3, lines 5-18, with the following:

In another form, the invention includes a system for assisting an operator in analyzing an embroidery design which will be used by an embroidery machine to ~~create~~ manufacture an embroidered fabric. The system comprises a personal computer which includes a memory which contains a knowledge base of parameters relating to embroidery designs and a memory of a rules base of rules which interrelate two or more of the parameters. The system also comprises a processor that executes selection software responsive to the operator for permitting the operator to select a parameter and for~~designating a defined~~ defining an additional

parameter. The defined parameter is a function of the operator selected parameter. Analysis software applies the rules to the defined parameter and generates one or more recommended manufacturing parameters as a function of the defined parameter. Display software displays the selected and defined parameters and the one or more recommended manufacturing parameters such that the one or more recommended manufacturing parameters define parameters for manufacturing the embroidery design using the embroidery machine.

Please replace the paragraph at page 3, lines 19-26, with the following:

This expert system and method of the invention has a number of advantages over the prior art. The expert system and method provide direction and guidance to an operator of an embroidery machine to enable the operator to quickly, efficiently and effectively select parameters relating to an embroidery design to be created as an embroidered fabric so that the operator can effectively produce a quality embroidered fabric from the embroidery design.

Please replace the paragraph at page 4, lines 9-13, with the following:

Computer Program Listing Appendix ~~A~~ is an exemplary listing of one preferred embodiment ~~of a Computer Program Listing~~ of a software program according to the invention. As noted above, it is ~~being submitted simultaneously~~included with this Application on a CD-ROM.

Please replace the paragraph at page 5, lines, 4-14, with the following:

The expert system and method of the invention analyzes the selected and defined parameters and recommends to the

operator additional manufacturing parameters for a quality embroidered fabric from an embroidery design. Additionally, the system provides the operator with comments related to the selected, defined and/or recommended manufacturing parameters to provide the operator with additional information with regard to the application of the various parameters. The system may also provide the operator with photographs or multimedia presentations associated with one or more of the selected, defined and/or recommended manufacturing parameters.

Please replace the paragraph at page 5, line 26 to page 6, line 13, with the following:

In a next step 104 the software defines ~~the~~ one or more additional parameters referred to as the defined parameters. In this step, the expert system of this invention designates one or more additional defined parameters from a plurality of parameters which are a function of the operator selected parameter of step 102. Preferably, both the selected parameter selected by the operator at step 102 and the defined parameters defined at step 104 are parameters that are contained in a knowledge base which contains a plurality of parameters related to embroidery design. For example, where the selected parameter selected by the operator in step 102 is cotton/polyester woven, the parameters designated as the defined parameters in step 104 could be a medium fabric thickness and no fabric stretch. In an optional step 106, the system provides the operator the ability to modify the defined parameter as designated by the expert system in step 102. For example, where the selected parameter is cotton/polyester woven and the defined parameters are medium fabric thickness and no fabric stretch, the operator has the opportunity to select a modified defined parameter for the fabric thickness and/or the fabric stretch. The operator could select a heavy

fabric thickness rather than the system designated defined parameter of medium fabric thickness.

Please replace the paragraph at page 6, lines 14-33, with the following:

In a next step 108, the rules base of rules is applied to the selected and the defined parameters. The rules base is a collection of rules that interrelate two or more of parameters in the embroidery process. The rules provide the various interrelationships between parameters and are preferably based on the experience of experts in the field of the art. The rules step 108 receives as input the selected parameter and the defined parameters, the latter either being as designated by step 104 or as modified by the operator in step 106. Based on the application of the rules to the selected parameter and the defined parameters, step 110 generates the recommended manufacturing parameters which are a function of the defined parameter. These one or more recommended manufacturing parameters are additional parameters that will assist the operator and provide direction for the manufacture ~~creation~~ of an embroidered fabric from an embroidery design. Where the selected parameter is cotton/polyester woven and the defined parameters are medium fabric thickness and no fabric stretch, the recommended manufacturing parameters could include an embroidery needle type, a needle size of 11-12, a thread weight of 40 weight, and a tear-away backing type.

Please replace the paragraph at page 6, line 34 to page 7, line 13, with the following:

A next optional step 112 generates comments that are a function of the selected parameter, the one or more defined parameters and/or the one or more recommended manufacturing parameters. The comments provide general embroidery parameter and process application comments intended to

assist the operator in applying the parameters during the embroidery process and the manufacture ~~creation~~ of a quality embroidered fabric from ~~a fabric~~an embroidery design. A final step 114 displays the one or more defined and one or more recommended manufacturing parameters. The display step 114 also includes the displaying of any related text comments, photographs, or multimedia presentations if available. The display step 114 could also provide a printout of the parameters and/or the comments, or the storage of the information in a memory file or on a memory media such as a floppy-disk or CD-ROM.

Please replace the paragraph beginning at page 7, line 19 to page 8, line 2, with the following:

Figure 2 provides a screen shot display according to one embodiment of the invention wherein the selected parameter category is the project/fabric type and wherein the defined parameters are fabric thickness and fabric stretch. In Fig. 2 the screen shot is entitled "Project Advisor." The screen initially provides a prompt 201 to the operator to select a project/fabric type. From this prompt 201, the operator is provided the ability to select a selected parameter for the project /fabric type from the pull down menu 202. In this illustrated example, the operator has chosen cotton/polyester woven. Next, the screen shot displays the defined parameters that are designated by the expert system based on the operator's selection of cotton/polyester woven in menu 202. In this example, the expert system provides defined parameters of fabric thickness 204 and fabric stretch 205. The expert system designates the defined parameters in pull down menus 206 and 207. In this instance, the screen shot displays the defined parameter of medium fabric thickness 206 and no fabric stretch 207.

Please replace the paragraph at page 8, lines 13-20, with the following:

Referring again to Fig. 2, based on the selected parameter of cotton/polyester woven 202 and the defined parameters of medium fabric thickness 206 and no fabric stretch 207, the expert system provides the operator with recommendations 208. The recommended manufacturing parameters are the embroidery needle type 209 and the needle size of 11-12 210. Additional recommended manufacturing parameters include the thread weight of 40 weight 211 and tear-away backing type 212.

Please replace the paragraph at page 8, line 21 to page 9, line 4, with the following:

Finally, the screen shot of Fig. 2 provides a project notes field 220 which provides the operator with comments that contain additional information related to the application of the selected parameter, the defined parameter, and the one or more recommended manufacturing parameters associated with the manufacture ~~creation~~ of an embroidered fabric from an embroidery design. As shown in Fig. 2, text comments are associated the cotton/polyester woven 202, the medium fabric thickness 206 and with an unspecified hooping technique parameter. The hooping technique parameter was not a selected, defined or recommended manufacturing parameter. However, in this example of a screen shot for this expert system, the comment provided by the expert system provides the operator with information associated with the hooping technique in the project notes field 220 that will assist the operator in the creation of the quality ~~embroidery~~ embroidered fabric from an embroidery design. In this example, the project notes 220 includes a comment that "When hooping, remember to make sure the fabric is 'drum

tight.'" (See Computer Program Listing Appendix ~~A~~ on CD-ROM).

Please replace the paragraph at page 9, lines 5-16, with the following:

In other embodiments of this invention, other screen shots would show other parameters that would be prompted as the initial selection parameter in prompt 201, as the defined parameters of fabric thickness 204 and fabric stretch 205, as the parameters displayed in the pull down menus of 202, 206 and 207, and as the recommended manufacturing parameters 208. These parameters could be any parameters from the category of parameters including hooping technique, stabilization technique, topping material, backing material, thread weight, thread type, needle type, needle size, embroidery density, project/fabric type, fabric thickness, fabric density, fabric stretch and design size.

Please replace the paragraph at page 9, lines 17-21, with the following:

Additionally, in another embodiment of this invention, the operator may be presented with photographs or multimedia presentations in the screen shot that also assist the operator in applying the parameters and in the manufacture ~~creation~~ of the ~~embroidery~~ embroidered fabric.

Please replace the paragraph at page 10, lines 14-33, with the following:

Additionally, the processor 302 is connected to selection software 304, analysis software 312 and display software 314. The selection software 312 assists the operator in selecting a selected parameter and designates one or more related defined parameters from the plurality of parameters. Additionally, the selection software 312 enables the

operator to modify the defined parameters as designated by the selection software 312. The analysis software 312 applies the rules to the defined parameters and generates one or more recommended manufacturing parameters as a function of the defined parameter. The display software 314 provides a display 316 corresponding to the selected parameter, the defined parameter and the one or more recommended manufacturing parameters. The display software may also provide for the display 316 of comments, photographs, or multimedia presentations which are a function of the selected parameter, the defined parameter, and/or the one or more recommended manufacturing parameters. These comments, photographs or multimedia presentations may be obtained from the knowledge base of parameters memory 308 or from other sources.

Please replace the paragraph at page 11, line 17 to page 12, line 7, with the following:

In operation, the operator starts the expert system and method by opening the expert system screen shot as depicted in Fig. 2. The operator is prompted in step 102 by the selection software 304 to select an initial selected parameter such as the project/fabric type 201. The operator selects the initial selected parameter from the pull down menu 202. These parameters are stored on the system in the knowledge base of parameters memory 308. In step 104, the selection software 304 designates the defined parameters which are a function of the operator selected parameter of step 102. In step 106, the selection software 304 enables the operator in pull down menus 206 and 207 to modify the system designated defined parameters. In step 108, once the operator either modifies the defined parameter or chooses to accept the system designated defined parameters, the analysis software 310 applies the rules base of rules from the

rules base of rules memory 310 to the selected and defined parameters and generates in step 110 the recommended manufacturing parameters. The recommended manufacturing parameters are displayed on the screen as recommendations 208 as enabled by the display software 314 and on the display 316. Additionally, the display software 314 provides on the display 316 associated project notes 220 which may include comments as provided in step 112. Additionally, photographs or multimedia presentations may also be provided by the processor 302 to the display software 314 for display on the display 316.

Please replace the heading and paragraph beginning at page 12, line 8 to line 15, with the following:

ANNOTATED DESCRIPTION OF THE COMPUTER PROGRAM LISTING APPENDIX~~SOFTWARE~~ ON CD-ROM

The Computer Program Listing Appendix ~~A~~ on CD-ROM is an exemplary listing of one preferred embodiment of a ~~Computer Program Listing of a~~ software program ~~according to the invention which is being submitted simultaneous with the submission of this Application via a transmittal letter and a single CD-ROM~~. The expert system and method of the invention assists an operator in manufacture~~creat~~ing an embroidered fabric from an embroidery design.

Please replace the paragraph at page 12, lines 16-26, with the following:

The expert system includes the knowledge base of parameters (see Computer Program Listing Appendix on CD-ROM, lines 1-130) related to embroidery designs. The expert system also includes a rules base of rules (see Computer Program Listing Appendix on CD-ROM, lines 132-211) that interrelate two or more of the parameters. In addition, the expert system may include selection software (Computer

Program Listing Appendix on CD-ROM, lines 212-213) which provides the operator the ability to select the selected parameter and for the expert system to designate the defined parameters based on the operator's selection of the project/fabric type. Additionally, the selection software provides the operator the ability to modify the designated defined parameters.

Please replace the paragraph at page 12, line 27 to page 13, line 7, with the following:

The expert system includes analysis software (Computer Program Listing Appendix on CD-ROM, lines 214-288 and 290-324) that applies rules to the selected and defined parameters. The rules are based on the experience of experts in the field of the art. The expert system also provides comments, photographs or multimedia presentations which are a function of the selected parameter, the defined parameter and/or one or more recommended manufacturing parameters. In one embodiment, the comments are contained in the knowledge base or parameters and retrieved by the analysis software to include in the recommendation or for forwarding to the display software. The expert system of this invention also includes display software (Computer Program Listing Appendix on CD-ROM, lines 131, 289, and 325-326) for providing a display corresponding to recommendations resulting from the application of the rules to the designated parameters.

Please replace the paragraph at page 13, lines 8-20, with the following:

Referring again to Computer Program Listing Appendix on CD-ROM~~-A~~, it can be seen that lines 1-59 specify the text string resources used for the knowledge base of parameters, lines 60-64 specify the general purpose string resources, lines 65-72 specify the hooping resources, lines 73-84

specify the stabilization resources, lines 85-88 specify other string resources, lines 89-102 specify needle and thread string resources, and lines 103-126 specify the project string table indexes. In addition, lines 137-209 specify the sample code function for designating a recommended manufacturing parameter where there is no operator modification to the defined parameters. Lines 214-278 provide the rules for designating a recommended manufacturing parameter where an operator modifies the defined parameters.

Please replace the paragraph at page 13, lines 21-26, with the following:

Referring again to Figure 2, a screen shot 200 provides one embodiment of the invention as described above. In this embodiment, the operator selected "cotton/polyester woven" as the project/fabric type 202 (Computer Program Listing Appendix on CD-ROM ~~A~~, line 5). As a result, the selection software designates the fabric thickness 204 as medium 206 and the fabric stretch 205 as none 207.

Please replace the paragraph at page 13, line27 to page 14, line 6, with the following:

Once the rule base is applied, the analysis software recommends 208 the type of needle as an embroidery needle 210 and recommends a size of the needle as size 11-12 210 (Computer Program Listing Appendix on CD-ROM, ~~Exhibit A~~ line 93). The operator may modify the defined parameter of fabric thickness 206 and/or fabric stretch 207 by modifying the defined parameters. For example, if the thickness of the cotton/polyester woven project was modified to heavy, based on the rule base of rules, the expert system could recommend the needle type as been a "jean needle" (See Computer Program Listing Appendix on CD-ROM, ~~Exhibit A at~~ lines 219-220) rather than an embroidery needle. The

analysis software also recommends a 40 weight thread weight (Computer Program Listing Appendix on CD-ROM, ~~Exhibit A~~ line 98). Finally, the display software presents comments 220 corresponding to the selected, defined and/or recommended manufacturing parameters ~~selected by the operator~~. The comments shown in Fig. 2 project notes 220, are lines 4-8 of Computer Program Listing Appendix on CD-ROM ~~A~~.

Please replace the paragraph at page 14, lines 7-12, with the following:

The exemplary computer code as provided in Computer Program Listing Appendix on CD-ROM ~~A~~ is only one embodiment of the possible forms of this invention as provided by computer code. In other embodiments of this invention, computer program implementations of Figure 3 and Computer Program Listing Appendix on CD-ROM ~~Exhibit A~~ can be written in different codes, different software code modules or on a fully integrated basis.

Please replace the abstract on page 20, lines 3-17 with the following:

A ~~An expert~~ computer-implemented system and method for assisting an operator in analyzing an embroidery design which will be used by an embroidery machine to ~~create~~ manufacture an embroidered fabric. A knowledge base of parameters relates to embroidery designs. A rules base of rules interrelates the parameters. Selection software designates defined parameters. Analysis software applies the rules to defined parameters and generates recommended manufacturing parameters as a function of the defined parameters. Comments, photographs or multimedia presentations may be provided to the operator associated with one or more of the parameters. Display software provides a display of the selected parameter, the defined parameter, the one or more

recommended parameters and comments, photographs, or multimedia presentations which are a function of the parameters.